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SUMMARY
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SUMMARY

Agenda Item: D.8.1

South Africa

RECENT ADVANCES IN THE EXTRACTION OF URANIUM FROM SOUTH AFRICAN ORES

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SUMMARY

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A Review is given of the developments that have occurred since the first South African uranium extraction plant commenced operation in October, 1962. Consideration is given to the following aspects of the uranium extraction process. (a) Leaching. A brief description is given of the "ferric leach" process as installed by the Virginia Gold Mining Co., and the investigations on the application of pressure leaching to South African Ores. (b) Filtration. Consideration is given to the various ways of avoiding this step in the processing and particular attention is given to the resin-in-pulp process for the treatment of unfiltered slurries. (c) Treatment of leach solutions containing uranium. A description is given on the work conducted on the regeneration of poisoned ion exchange resins and the assessment of the liquid-liquid extraction process as an alternative to the ion exchange process.

Not all the advances have been applied on a full scale in South Africa since additional capital would have to be expended in abandoning old plant and erecting new plant, and it is doubtful whether such expenditure could be justified in view of the limited market for uranium existing at present.

However, for countries contemplating the establishment of new uranium extraction plants, it is probable that the developments indicated would be of interest. Consideration is therefore given to the economic, marketing and other factors which could influence the choice of the particular processes to be used for uranium extraction.

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